

LISTING OF CLAIMS

This claim listing replaces all previous versions of the claims.

1. (Currently Amended) A method of operating a base station comprising:

Receiving a **random access** request for a **traffic** channel of a plurality of **traffic** channels on a first **random traffic** channel of the plurality of **traffic** channels, **the traffic channels to be selectively allocatable by the base station for communication with a user terminal;**

Determining whether a **traffic** channel of the plurality of **traffic** channels is available **to allocate to the requestor;** and

Communicating to the requestor whether a **traffic** channel of the plurality of **traffic** channels is available.

2. (Original) The method of claim 1 wherein:

Communicating includes denying the request for a channel.

3. (Original) The method of claim 1 wherein:

Communicating includes granting the request for a channel by assigning the first channel.

4. (Original) The method of claim 1 wherein:

Communicating includes granting the request for a channel by assigning a second channel and the first channel.

5. (Original) The method of claim 1 wherein:

Communicating includes granting the request for a channel by assigning a second channel instead of the first channel.

6. (Original) The method of claim 1 wherein:

Determining includes evaluating a load of the system.

7. (Original) The method of claim 1 wherein:
Determining includes evaluating an emergency status of the request.
8. (Original) The method of claim 1 wherein:
Determining includes evaluating a status of a subscriber from whom the request originates.
9. (Original) The method of claim 8 wherein:
Evaluating the status includes evaluating the subscription terms of the subscriber.
10. (Original) The method of claim 8 wherein:
Evaluating the status includes evaluating the payment history of the subscriber.
11. (Original) The method of claim 1 wherein:
Determining includes evaluating a nature of the request.
12. (Original) The method of claim 11 wherein:
The nature of the request includes a high bandwidth requirement.
13. (Original) The method of claim 11 wherein:
The nature of the request includes a low bandwidth requirement.
14. (Original) The method of claim 11 wherein:
The nature of the request includes a set of capabilities of equipment used to make the request.
15. (Original) The method of claim 3 further comprising:
Receiving a request for a third channel of the plurality of channels upon assigning of the first channel;
Determining whether a third or fourth channel of the plurality of channels is available;
and

Communicating to the requestor the third channel availability or fourth channel availability.

16. (Currently Amended) A method of operating a user terminal comprising:

Sending a request for a first unallocated traffic channel of a plurality of traffic channels on the first unallocated channel to access a network; and

Receiving an indication of availability of a traffic channel of the plurality of traffic channels.

17. (Original) The method of claim 16 wherein:

The request including a subscriber identification.

18. (Original) The method of claim 16 wherein:

The request including an emergency code.

19. (Original) The method of claim 16 wherein:

The request including an equipment identification.

20. (Original) The method of claim 16 wherein:

The request including a training sequence.

21. (Original) The method of claim 16 wherein:

The indication signaling no channel is available.

22. (Original) The method of claim 16 wherein:

The indication signaling the first channel is available.

23. (Original) The method of claim 16 wherein:

The indication signaling a second channel of the plurality of channels is available.

24. (Original) The method of claim 23 wherein:

The indication signaling the first channel is also available.

25. (Original) The method of claim 22 further comprising:
Communicating using the first channel.
26. (Original) The method of claim 23 further comprising:
Communicating using the second channel.
27. (Original) The method of claim 24 further comprising:
Communicating using the first channel and the second channel.
28. (Original) The method of claim 25 further comprising:
Sending a request for a third channel of the plurality of channels; and
Receiving an indication of availability of a channel of the plurality of channels.
29. (Original) The method of claim 28 wherein:
The indication signaling the third channel is not available.
30. (Original) The method of claim 28 wherein:
The indication signaling the third channel is available.
31. (Original) The method of claim 28 wherein:
The indication signaling a fourth channel is available.
32. (Original) The method of claim 21 further comprising:
Waiting an inter-channel delay;
Sending a request for a third channel of the plurality of channels on the third channel;
Receiving an indication of availability of a channel of the plurality of channels.
33. (Original) The method of claim 32 wherein:
the indication signaling the third channel is not available;
determining no other channels may be requested;

waiting an inter-attempt delay; and

sending a request for the first channel on the first channel.

34. (Currently Amended) A method of providing access to a network comprising:

receiving a request for access on a first random traffic channel of a plurality of channels at random from a network subscriber, each channel of the plurality of channels suitable for accessing the network; and

granting access to the network on a channel of the plurality of channels based on an evaluation of factors.

35. (Original) The method of claim 34 wherein:

The factors include subscriber status, subscriber equipment, network loading, type of service requested, geographic location of the request, geographic location of the responding equipment, connection quality, usage history of the subscriber, and emergency status of the request.

36. (Currently Amended) A method of accessing a network comprising:

requesting access to the network on a first random traffic channel of a plurality of channels, each channel of the plurality of channels suitable for accessing the network; and

receiving access to the network on a channel of the plurality of channels based on an evaluation of factors.

37. (Original) The method of claim 36 wherein:

The factors include subscriber status, subscriber equipment, network loading, and emergency status of the request.

38. (Original) The method of claim 36 wherein:

The request includes information related to equipment used by a subscriber making the request.

39. (Original) The method of claim 8 wherein:

Evaluating the status includes evaluating the usage history of the subscriber.

40. (Original) The method of claim 1 wherein:

Determining includes evaluating the radio frequency characteristics of the request.

41. (**Currently Amended**) A method comprising:

Receiving a request for **[[a]] an access** channel of a plurality of channels on a first **unallocated** channel of the plurality of channels;

Determining whether **[[a]] an access** channel of the plurality of channels is available; and

Communicating to the requestor whether **[[a]] an access** channel of the plurality of channels is available.

42. (Original) The method of claim 41 wherein:

Communicating includes denying the request for a channel.

43. (Original) The method of claim 41 wherein:

Communicating includes granting the request for a channel by assigning the first channel.

44. (Original) The method of claim 41 wherein:

Communicating includes granting the request for a channel by assigning a second channel and the first channel.

45. (Original) The method of claim 41 wherein:

Communicating includes granting the request for a channel by assigning a second channel instead of the first channel.

46. (Original) The method of claim 41 wherein:

Determining includes evaluating a load of the system.

47. (Original) The method of claim 41 wherein:

Determining includes evaluating an emergency status of the request.

48. (Original) The method of claim 41 wherein:

Determining includes evaluating a status of a subscriber from whom the request originates.

49. (Original) The method of claim 48 wherein:

Evaluating the status includes evaluating the subscription terms of the subscriber.

50. (Original) The method of claim 48 wherein:

Evaluating the status includes evaluating the payment history of the subscriber.

51. (Original) The method of claim 41 wherein:

Determining includes evaluating a nature of the request.

52. (Original) The method of claim 51 wherein:

The nature of the request includes a high bandwidth requirement.

53. (Original) The method of claim 51 wherein:

The nature of the request includes a low bandwidth requirement.

54. (Original) The method of claim 51 wherein:

The nature of the request includes a set of capabilities of equipment used to make the request.

55. (Original) The method of claim 43 further comprising:

Receiving a request for a third channel of the plurality of channels upon assigning of the first channel;

Determining whether a third or fourth channel of the plurality of channels is available;
and

Communicating to the requestor the third channel availability or fourth channel availability.

56. (Original) The method of claim 48 wherein:

Evaluating the status includes evaluating the usage history of the subscriber.

57. (Original) The method of claim 41 wherein:

Determining includes evaluating the radio frequency characteristics of the request.

58. (Original) The method of claim 41 wherein:

Communicating includes at least one of: denying the request for a channel, granting the request for a channel by assigning the first channel, granting the request for a channel by assigning a second channel and the first channel, or granting the request for a channel by assigning a second channel instead of the first channel.

59. (Original) The method of claim 41 wherein:

Determining includes at least one of: evaluating the radio frequency characteristics of the request, evaluating a load of the system, evaluating an emergency status of the request, evaluating a status of a subscriber from whom the request originates, or evaluating a nature of the request.

60. (Currently Amended) An apparatus comprising:

means for receiving a request for **[[a]] an access** channel of a plurality of channels on a first **unallocated** channel of the plurality of channels;

means for determining whether **[[a]] an access** channel of the plurality of channels is available; and

means for communicating to the requestor whether **[[a]] an access** channel of the plurality of channels is available.

61. (Original) The apparatus of claim 60 wherein:

the means for communicating includes a means for assigning a channel of the plurality of channels.

62. (Original) The apparatus of claim 60 wherein:

the means for determining includes a means for evaluating a status of a network, a means for evaluating a status of a request, a means for evaluating a status of a subscriber, a means for evaluating a usage history of a subscriber and a means for evaluating a radio frequency characteristic of a request.

63. (**Currently Amended**) A system comprising:

a processor; and

a network interface coupled to the processor;

wherein the processor and the network interface are collectively configured to:

receive a request for **[[a]] an access** channel of a plurality of channels on a first **unallocated** channel of the plurality of channels;

determine whether **[[a]] an access** channel of the plurality of channels is available; and

communicate to the requestor whether **[[a]] an access** channel of the plurality of channels is available.

64. (Currently Amended) A machine-readable medium embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, the method comprising:

Receiving a random access request for a traffic channel of a plurality of traffic channels on a first random traffic channel of the plurality of channels, the traffic channels to be selectively allocatable by the base station for communication with a user terminal;

Determining whether a channel of the plurality of channels is available to allocate to the requestor; and

Communicating to the requestor whether a channel of the plurality of channels is available.

65. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Communicating includes denying the request for a channel.

66. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Communicating includes granting the request for a channel by assigning the first channel.

67. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Communicating includes granting the request for a channel by assigning a second channel and the first channel.

68. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Communicating includes granting the request for a channel by assigning a second channel instead of the first channel.

69. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Determining includes evaluating a load of the system.

70. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Determining includes evaluating an emergency status of the request.

71. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Determining includes evaluating a status of a subscriber from whom the request originates.

72. (Original) The machine-readable medium of claim 71 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Evaluating the status includes evaluating the subscription terms of the subscriber.

73. (Original) The machine-readable medium of claim 71 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Evaluating the status includes evaluating the payment history of the subscriber.

74. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Determining includes evaluating a nature of the request.

75. (Original) The machine-readable medium of claim 74 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

The nature of the request includes a high bandwidth requirement.

76. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

The nature of the request includes a low bandwidth requirement.

77. (Original) The machine-readable medium of claim 74 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

The nature of the request includes a set of capabilities of equipment used to make the request.

78. (Original) The machine-readable medium of claim 66 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Receiving a request for a third channel of the plurality of channels upon assigning of the first channel;

Determining whether a third or fourth channel of the plurality of channels is available;
and

Communicating to the requestor the third channel availability or fourth channel availability.

79. (Original) The machine-readable medium of claim 71 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Evaluating the status includes evaluating the usage history of the subscriber.

80. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Determining includes evaluating the radio frequency characteristics of the request.

81. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Communicating includes at least one of: denying the request for a channel, granting the request for a channel by assigning the first channel, granting the request for a channel by assigning a second channel and the first channel, or granting the request for a channel by assigning a second channel instead of the first channel.

82. (Original) The machine-readable medium of claim 64 further embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, wherein:

Determining includes at least one of: evaluating the radio frequency characteristics of the request, evaluating a load of the system, evaluating an emergency status of the request, evaluating a status of a subscriber from whom the request originates, or evaluating a nature of the request.

83. (Original) The method of claim 41 wherein:

the request implies a request for any channel of the plurality of channels.

84. (Original) The method of claim 41 wherein:

the request implies a request for the first channel of the plurality of channels.

85. (Original) The method of claim 41 wherein:

the request encodes a desired channel of the plurality of channels.

86. (New) The method of claim 1, further comprising calculating a set of spatial multiplexing weights and a set of spatial demultiplexing weights associated with the request.

- 87. (New)** The method of claim 1, wherein communicating to the requestor includes using the set of spatial multiplexing weights to tailor a multi-lobe antenna radiation pattern.
- 88. (New)** The method of claim 41, further comprising calculating a set of spatial multiplexing weights and a set of spatial demultiplexing weights associated with the request.
- 89. (New)** The method of claim 41, wherein communicating to the requestor includes using the set of spatial multiplexing weights to tailor a multi-lobe antenna radiation pattern.
- 90. (New)** The apparatus of claim 60, further comprising means for calculating a set of spatial multiplexing weights and a set of spatial demultiplexing weights associated with the request.
- 91. (New)** The apparatus of claim 60, wherein the means for communicating to the requestor includes a means for employing the set of spatial multiplexing weights to tailor a multi-lobe antenna radiation pattern.